

# Retrospective Study of Punch Scoring Versus Freehand Approach for First Stage Mohs Micrographic Surgery

<sup>a</sup>NIKOO CHERAGHI, MD; <sup>b</sup>ABDULHADI JFRI, MD; <sup>b</sup>ROBERT BACIGALUPI, MD; <sup>b</sup>HOOMAN KHORASANI, MD

<sup>a</sup>Department of Dermatology, New York Medical College, New York, New York;

<sup>b</sup>Division of Dermatologic Surgery, Department of Dermatology, Mount Sinai School of Medicine, New York, New York

---

## ABSTRACT

**Objective:** The objective was to observe whether there is a difference in the number of subjects requiring more than one stage of Mohs micrographic surgery for small lesion nonmelanoma skin cancers using the punch scoring method versus freehand approach. **Design:** Retrospective review. **Setting:** Outpatient Mohs Clinic. **Participants:** Thirty patients with small lesion (<5mm) basal cell and squamous cell carcinoma who had Mohs micrographic surgery using either the punch scoring method (15) for scoring the first layer or the freehand method (15). **Measurements:** Differences between the two groups were evaluated by the number of subjects requiring more than one stage and the reason for any additional stages. **Results:** There was no observed difference in the number of subjects requiring more than one Mohs stage between the punch scoring group and the freehand group. **Conclusion:** Dermatologic surgeons can use the punch scoring method or the freehand approach for scoring small lesion Mohs based on provider preference. (*J Clin Aesthet Dermatol.* 2016;9(9):55–56.)

---

Mohs micrographic surgery is the standard of care for nonmelanoma skin cancers of the face. Frequently, with judicious skin exams, small (<5mm) lesions are discovered and often only a small biopsy scar remains clinically. Mohs micrographic surgery is indicated as residual cancer often extends to the border of the biopsy specimen.<sup>1</sup> The surgeon may have technical difficulty excising the first Mohs layer in such small specimens as meticulous control of the blade is necessary while beveling and cutting in a curvilinear fashion. Small specimens with contour irregularities are also difficult to process during frozen sectioning and may lead to missing epidermis on histology. Missing epidermis results in an additional layer not otherwise needed if tumor is absent at the missing margin. To assist in forming a perfect circle, the authors commonly score small lesions (<5mm) with a punch biopsy tool to template a small, round incision prior to beveled excision with a 15c blade. This method has been described, but never studied in the literature against freehand excision in Mohs micrographic surgery.<sup>2</sup>

A six-month, retrospective, chart review was performed at Mount Sinai School of Medicine Division of Dermatologic Surgery. An Institutional Review Board exception was obtained. Inclusion criteria included biopsy-proven squamous cell carcinomas or basal cell carcinomas localized to the nose with a preoperative size equal to 4mm. Melanocytic lesions, lesions not on the nose, lesions measuring more than 5mm, and recurrent lesions within a scar were excluded. Tumor subtype, preoperative sizes, number, and reason for stages were documented. All stages were taken by one of the authors (HK) and slides were reviewed for accuracy. The cases were divided into those removed using the punch-scoring method and those removed using the freehand approach. In the punch-scoring group, a 5mm punch biopsy tool was used to score the lesions to the level of the papillary dermis; subsequently, the lesions were beveled at the depth of the dermis with a 15c blade (Figure 1). In the freehand group, no template scoring was performed prior to bevel excision of the lesion. One millimeter margins were used in both methods.

---

**DISCLOSURE:** The authors report no relevant conflicts of interest.

**ADDRESS CORRESPONDENCE TO:** Hooman Khorasani; E-mail: hooman.khorasani@mountsinai.org



**Figure 1.** (A) A 4mm basal cell carcinoma on the nose is scored using a 5mm punch biopsy tool. (B) A scored basal cell carcinoma on the nose prior to excision. (C) The scored basal cell carcinoma is beveled out using a 15c blade.

**TABLE 1.** Freehand and punch scoring results in the study population

	TOTAL (N = 30)	FREEHAND (N = 15)	PUNCH SCORING (N = 15)
<b>1 stage</b>	13 (43.3)	7 (46.7)	6 (40.0)
<b>2 or more stages</b>	17 (56.7)	8 (53.3)	9 (60.0)

**REASON FOR ADDITIONAL STAGES AFTER STAGE 1**

	TOTAL (N = 17)	FREEHAND (N = 8)	PUNCH SCORING (N = 9)
<b>Lack of epidermis</b>	1 (5.9)	0 (0.0)	1 (11.1)
<b>Tumor at margin</b>	16 (94.1)	8 (100.0)	8 (88.8)

Number of patients with percentages in parentheses

The review revealed a total of 30 lesions (freehand = 15, punch = 15). All of the lesions were basal cell carcinomas, except for one squamous cell carcinoma in the punch-scoring group. The average number of stages was 1.7 (range of 1–3): 1.67 in the freehand group, 1.73 in the punch group. There was no statistically significant difference in the number of specimens that were fully removed in the first stage between the two groups (Table 1). Only one specimen in the punch group had lack of epidermis (defined as missing >10% of epidermis) on the first stage as compared to zero in the freehand group.

In conclusion, in this study, there were no significant differences in number of stages needed to remove a nonmelanoma skin cancer or in the number of cases lacking epidermis between the punch scoring and freehand approach groups. Although experienced surgeons may not

have difficulty excising the first Mohs layer in small specimens, novice surgeons may find that using a punch biopsy tool to score small lesions prior to excision is technically easier. The limitations of this study include the small sample size. While scoring may not affect the type of closure, further studies should be performed to attempt to decrease unnecessary stages in Mohs micrographic surgery as this can reduce the procedure time and cost.

## REFERENCES

1. Alcalay J, Alcalay R, Hazaz B. Residual skin cancer after preoperative biopsy: evaluation by Mohs micrographic surgery. *Int J Dermatol.* 2004;43(6):456–458.
2. Kapadia A, Hussain W. “Scoring with a punch”: facilitating Mohs surgery around small biopsy scars. *Br J Dermatol.* 2012;166(3):671–672. ●